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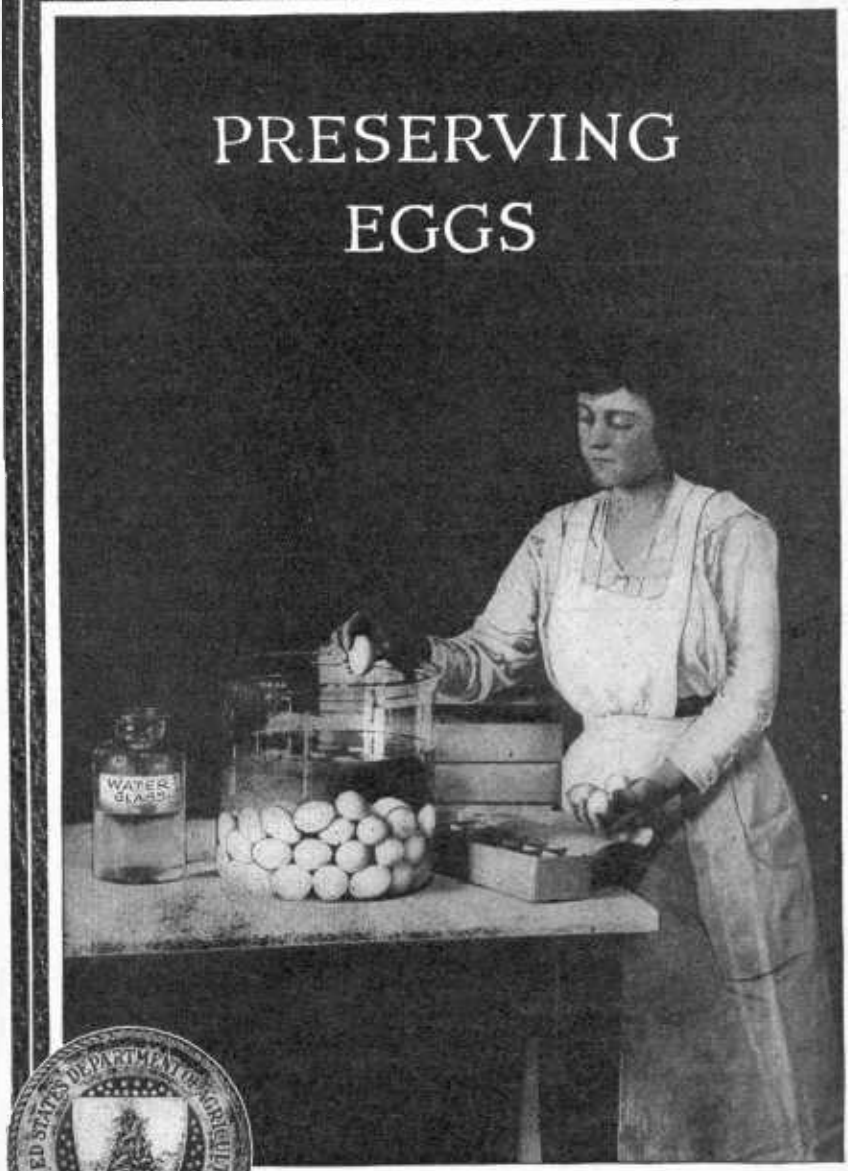
PRESERVING EGGS



THIS BULLETIN has been written briefly and in simple terms for the beginner, and especially for members of the Boys' and Girls' Poultry Clubs.

Contribution from the Bureau of Animal Industry
JOHN R. MOHLER, Chief
Washington, D. C. September, 1920

PRESERVING EGGS

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Animal Husbandry Division.

CONTENTS.

PRESERVING EGGS FOR HOME USE.

EVERY boy and girl who is a member of a poultry club or who is in any way interested in poultry keeping should learn how to candle and preserve eggs. During the late spring and early summer (April, May, and June) eggs usually are abundant and reasonable in price, and that is the time to preserve them for use during the winter, when they are generally scarce and the prices are high. Fresh eggs, properly preserved, may be kept from 6 to 10 months and be almost as good for all household purposes as fresh eggs.

PRESERVING IN WATER GLASS.

To preserve 15 dozen eggs in water glass, the following directions should be followed:

(1) Select a 5-gallon crock (earthen or stone) and clean it thoroughly, then scald and allow to dry.

(2) Heat 10 to 12 quarts of water to the boiling point and allow it to cool.

(3) When cool, measure out 9 quarts of water, place in the crock, and add 1 quart of sodium silicate (commonly called water glass), which can be purchased at almost any drug store. Stir well so that the solution becomes thoroughly mixed.

The solution thus prepared is ready for the eggs, which may be put in all at once or from time to time as they are obtainable. Care should be taken in putting them in the jar not to crack or break the shells; also make sure that the solution covers the eggs by at least two inches at all times.

Put the crock containing the preserved eggs in a cool, dry place and cover with a tight lid or waxed paper to prevent evaporation.

To preserve a smaller or larger number of eggs, the solution should be mixed and prepared in the same proportion.

PRESERVING WITH LIME SOLUTION.

If water glass is not obtainable, lime may be used. It is not considered so good as water glass, as in some instances eggs preserved by this method have tasted slightly of lime, although at other times lime-water has proved entirely satisfactory.

To preserve with lime, dissolve 2 pounds of unslaked lime in a small quantity of water and dilute with 5 gallons of water that has previously been boiled and cooled. Allow the mixture to stand until the lime settles, then pour off and use the clear liquid. Place clean, fresh eggs in a clean earthenware crock or jar and pour the clear limewater into the vessel until the eggs are covered. At least 2 inches of the solution should cover the top layer of eggs.

BEST RESULTS.

If best results are to be obtained the eggs should be fresh and clean and preferably infertile. For this reason it is always best when possible to candle the eggs carefully before preserving them unless they are known to be strictly fresh. If an egg is only slightly soiled a cloth dampened with vinegar may be used to remove the stains, but eggs should not be washed with water or soap and water, as water removes the protective coating that is on the shell and may tend to cause the contents to spoil. Under no circumstances should badly soiled or cracked eggs be used for preserving, as one or more such eggs in a jar may spoil all the others.

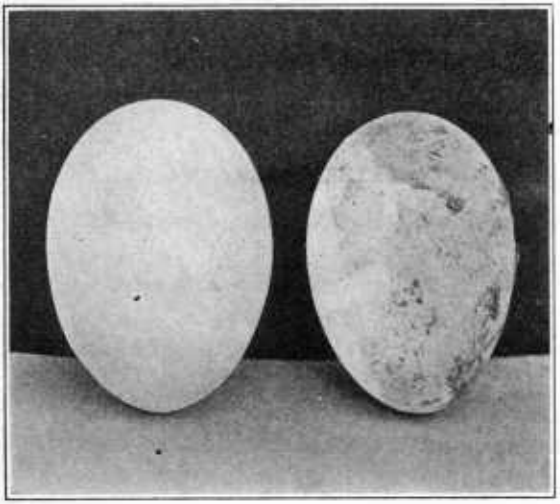


FIG. 1.—Only clean eggs, such as the one on the left, should be preserved. The egg on the right is too much soiled to preserve.

USING PRESERVED EGGS.

Fresh eggs preserved according to these directions will usually keep from 6 to 10 months and can be used satisfactorily for all purposes in cooking and for the table. If, however, preserved eggs are to be boiled, a small hole should be made with a pin in the larger end of the shell before placing them in the water, to allow the air in the egg to escape when heated and thus prevent cracking.

AN INFERTILE EGG.

An infertile egg is one laid by a hen that has not been with a male bird for 2 or 3 weeks and the germ cell of which is not fertilized. The length of time varies somewhat, but ordinarily all eggs will be infertile after the male has been separated from the flock for from 2 to 3 weeks. If the germ cell of the egg has not been fertilized the egg will not hatch, and it is impossible for a blood ring to form in such an egg when exposed to heat, which so often happens with fertile eggs. Infertile eggs will keep much longer than fertile ones, and are best for all purposes except hatching.

A FERTILE EGG.

A fertile egg is just the opposite of an infertile one. It is an egg laid by a hen that has been allowed to run with a male bird within 2 or 3 weeks and the germ cell of which is fertilized. The length of time required for fertilization varies somewhat, depending upon the vigor of the male. Generally speaking, however, a good percentage of the eggs will prove fertile after the male has been with the flock from 2 to 3 weeks. Fertile eggs are the ones from which chicks are hatched, and are desirable for hatching purposes only, as they spoil much sooner than infertile eggs, often resulting in heavy loss.

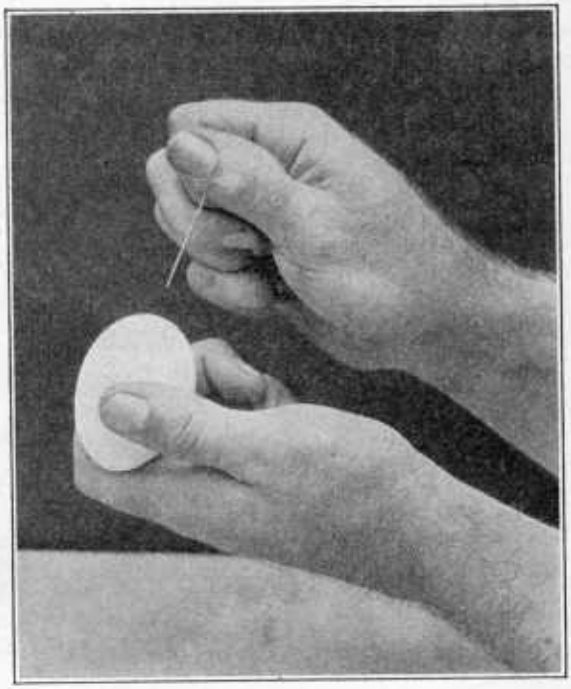


FIG. 2.—Punching a hole in the shell of a preserved egg before boiling.

Every boy or girl is urged to read carefully and study the chart of fertile and infertile eggs shown on the back page of this bulletin. Remember the information given. The male bird makes the egg fertile, and the fertile egg, if heated, develops a blood ring, making it unfit to eat. If you do not wish to hatch the eggs, do not keep a male bird. If you do want hatching eggs, then allow the male to run with the flock during the hatching season, but take him away

after the hatching is completed. The hens will lay just as many eggs without a male as with one.

CANDLING EGGS.

By the term "candling" is meant the discarding or sorting out of the bad eggs from the good ones by holding the egg before a strong light in such manner that the rays of the light come to the eye through the egg so that the condition of the contents can be seen.

The shell of a new-laid egg has a soft "glow" or "bloom" which is a visible sign of perfect freshness. This glow or bloom is destroyed by handling and in any case disappears after the egg has been exposed to the air for a short time. After that it is difficult to tell a fresh egg from an old one by the appearance of the shell; therefore candling becomes necessary if you would be sure that the egg is good.

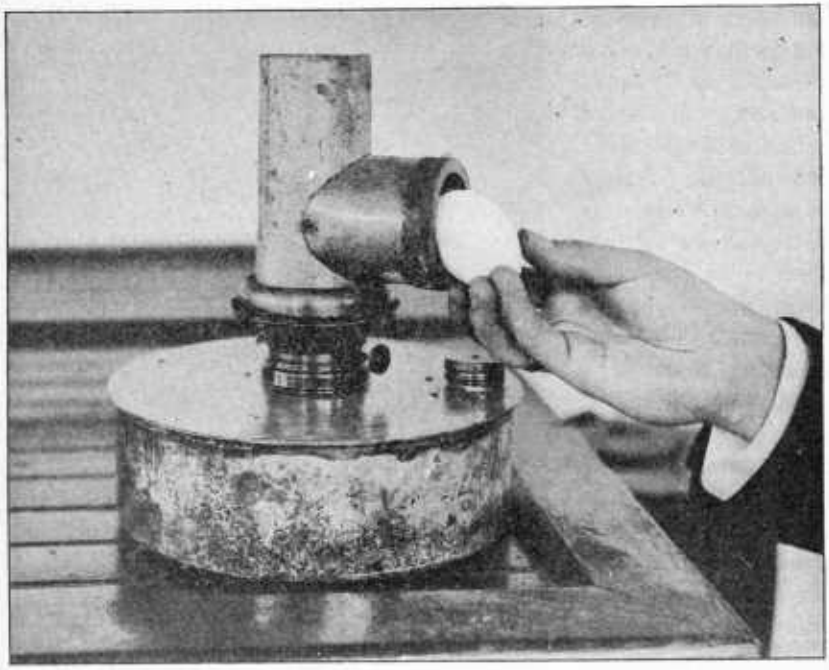


FIG. 3.—Testing an egg by the use of a metal-chimney tester which usually comes with an incubator or which can be purchased from poultry-supply houses. Such a tester can be readily fitted on an incubator lamp.

Eggs can be candled best in a dark room, by the use of a bright light inclosed in a box or case having a hole a trifle smaller than an egg directly opposite the light. At this hole the egg is held for examination. An ordinary hand lamp, a lantern, an incandescent bulb, or a flashlight may be used. Any box that, set on end, is large enough to hold the lamp will do. In addition to the hole opposite the light

there should be a hole at the top end of the box; otherwise the heat from the top of the chimney would set the box on fire. A tester chimney made of tin such as is used on a lamp for testing eggs in incubators may be used for candling. When such a chimney is available the box is not necessary, as the eggs are tested by means of the hole in the side of the chimney. (See fig. 3.)

The box and light should be placed on a table or a shelf where most convenient. Place on one side the eggs that are to be candled and on the other side have separate boxes (or anything that will hold the eggs) for the good and the bad eggs. Hold the eggs, one by one, large end up, close to the light.

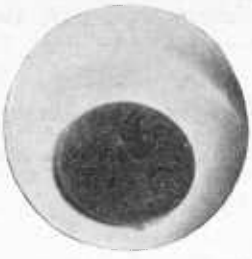
A perfectly good fresh egg shows "full" and "clear" before the light. There is almost no air cell at the large end, and the yolk outline is only faintly visible. A fixed air cell of one-eighth to three-sixteenths of an inch in depth indicates a fresh egg as eggs run generally. A larger air cell with a movable lower line indicates—according to sizes and fluctuations—a stale egg or one becoming weak and watery.

Very small dark spots which sometimes may be seen are usually blood clots. Large dark spots, blood rings, and shadows are due to heat and germination and indicate the first stages of decay. An egg that looks very dark or black, except for a large fixed air cell, contains a chick at an advanced stage of incubation. An egg which looks dark when tested in the same way but shows a large air cell with a movable lower line is usually in an advanced stage of fluid decomposition, or what is commonly known as a "rotten egg."

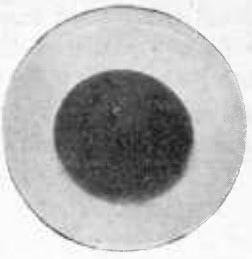
At first it may be a little difficult for some boys and girls to test the eggs as here directed, but with a little practice it becomes a very simple matter.

PRODUCE INFERTILE EGGS.

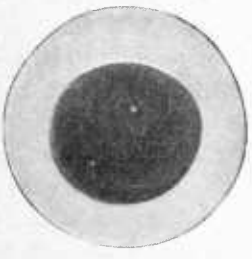
1. Fresh egg.



2. Infertile egg after 24 hours at 103° F. No blood ring. Good for food; would be still better if kept cool.



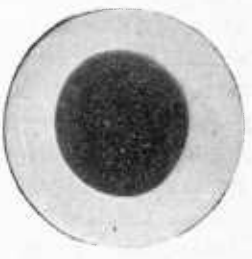
3. Infertile egg after 48 hours at 103° F. Still good food.



4. Infertile egg after 72 hours at 103° F. Not absolutely fresh, but useful in cookery.

After the hatching season, cook, sell, or pen your rooster. Hens not running with a male bird will produce infertile eggs—quality eggs that keep best and market best.

The rooster does not help the hens to lay.



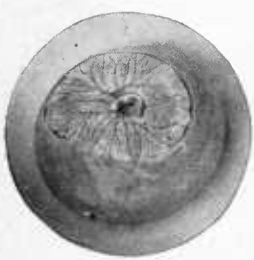
5. Infertile egg after 7 days at 103° F. Still usable for food. It would be a perfect egg if it had been kept cool.

Infertile eggs keep better than fertile eggs in summer.

1. Fertile egg after 24 hours at 103° F. Fertile germ beginning to hatch. Not perfect for food.

2. Fertile egg after 36 hours at 103° F. Blood ring formed. Not good for food.

3. Fertile egg after 48 hours at 103° F. Blood ring fully developed. Unfit for market.



4. Fertile egg after 72 hours at 103° F. Blood vessels of embryo chick clearly marked.

Fertile eggs cost farmers $15,000,000 a year. This loss is preventable. The rooster makes the egg fertile. The fertile egg makes the blood ring, which spoils the egg for food and market.

5. Fertile egg after 7 days at 103° F. Compare with infertile egg.

Fertile eggs spoil quickly in summer weather.